Release notes for ENDF/B Development n-016_S_032 evaluation

April 26, 2017

- **checkr** Warnings:

  1. A previous error halted parsing of the current section
     MAT=1625, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=1625, MF= 1, MT=451
         SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      174 TO      240
     ```

- **checkr** Errors:

  1. A variable is outside the allowed ENDF range
     MAT=1625, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=1625, MF= 1, MT=451
         MOD =    3 OUT OF RANGE    0 -    0          RECORD NUMBER     174
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1625, MF= 2, MT=151 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1625, MF= 2, MT=151
         SECTION  2/151 NOT IN DIRECTORY              RECORD NUMBER     242
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1625, MF= 3, MT= 1 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1625, MF= 3, MT=  1
         SECTION  3/  1 NOT IN DIRECTORY              RECORD NUMBER     334
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1625, MF= 3, MT= 2 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1625, MF= 3, MT=  2
         SECTION  3/  2 NOT IN DIRECTORY              RECORD NUMBER     357
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1625, MF= 3, MT= 4 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1625, MF= 3, MT=  4
         SECTION  3/  4 NOT IN DIRECTORY              RECORD NUMBER     380
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1625, MF= 3, MT= 16 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1625, MF= 3, MT= 16
         SECTION  3/ 16 NOT IN DIRECTORY              RECORD NUMBER     394
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1625, MF= 3, MT= 22 (0): Directory (b)

1

```
ERROR(S) FOUND IN MAT=1625, MF= 3, MT= 22
    SECTION  3/ 22 NOT IN DIRECTORY                RECORD NUMBER    400
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1625, MF= 3, MT= 28 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1625, MF= 3, MT= 28
    SECTION  3/ 28 NOT IN DIRECTORY                RECORD NUMBER    408
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1625, MF= 3, MT= 51 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1625, MF= 3, MT= 51
    SECTION  3/ 51 NOT IN DIRECTORY                RECORD NUMBER    415
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 3, MT= 52 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1625, MF= 3, MT= 52
    SECTION  3/ 52 NOT IN DIRECTORY                RECORD NUMBER    427
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 3, MT= 53 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1625, MF= 3, MT= 53
    SECTION  3/ 53 NOT IN DIRECTORY                RECORD NUMBER    438
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 3, MT= 54 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1625, MF= 3, MT= 54
    SECTION  3/ 54 NOT IN DIRECTORY                RECORD NUMBER    449
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 3, MT= 55 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1625, MF= 3, MT= 55
    SECTION  3/ 55 NOT IN DIRECTORY                RECORD NUMBER    459
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 3, MT= 56 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1625, MF= 3, MT= 56
    SECTION  3/ 56 NOT IN DIRECTORY                RECORD NUMBER    469
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 3, MT= 91 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 3, MT= 91
         SECTION  3/ 91 NOT IN DIRECTORY                RECORD NUMBER     479
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 3, MT=102 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 3, MT=102
         SECTION  3/102 NOT IN DIRECTORY                RECORD NUMBER     489
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 3, MT=103 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 3, MT=103
         SECTION  3/103 NOT IN DIRECTORY                RECORD NUMBER     505
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 3, MT=107 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 3, MT=107
         SECTION  3/107 NOT IN DIRECTORY                RECORD NUMBER     521
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 2 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT=  2
         SECTION  4/  2 NOT IN DIRECTORY                RECORD NUMBER     536
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 16 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT= 16
         SECTION  4/ 16 NOT IN DIRECTORY                RECORD NUMBER     693
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 22 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT= 22
         SECTION  4/ 22 NOT IN DIRECTORY                RECORD NUMBER     696
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 28 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT= 28
         SECTION  4/ 28 NOT IN DIRECTORY                RECORD NUMBER     699
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 51 (0): Directory (b)

3

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT= 51
         SECTION  4/ 51 NOT IN DIRECTORY                RECORD NUMBER     702
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 52 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT= 52
         SECTION  4/ 52 NOT IN DIRECTORY                RECORD NUMBER     803
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 53 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT= 53
         SECTION  4/ 53 NOT IN DIRECTORY                RECORD NUMBER     892
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 54 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT= 54
         SECTION  4/ 54 NOT IN DIRECTORY                RECORD NUMBER     978
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 55 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT= 55
         SECTION  4/ 55 NOT IN DIRECTORY                RECORD NUMBER    1060
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 56 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT= 56
         SECTION  4/ 56 NOT IN DIRECTORY                RECORD NUMBER    1126
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 4, MT= 91 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 4, MT= 91
         SECTION  4/ 91 NOT IN DIRECTORY                RECORD NUMBER    1204
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 5, MT= 16 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1625, MF= 5, MT= 16
         SECTION  5/ 16 NOT IN DIRECTORY                RECORD NUMBER    1234
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 5, MT= 22 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF= 5, MT= 22
           SECTION  5/ 22 NOT IN DIRECTORY                  RECORD NUMBER    1300
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 5, MT= 28 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF= 5, MT= 28
           SECTION  5/ 28 NOT IN DIRECTORY                  RECORD NUMBER    1460
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF= 5, MT= 91 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF= 5, MT= 91
           SECTION  5/ 91 NOT IN DIRECTORY                  RECORD NUMBER    1600
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=12, MT= 16 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=12, MT= 16
           SECTION 12/ 16 NOT IN DIRECTORY                  RECORD NUMBER    1793
```

35. Missing a gamma spectrum for continuum of gammas
    MAT=1625, MF=12, MT= 16 (1): No gamma spectrum

```
        ERROR(S) FOUND IN MAT=1625, MF=12, MT= 16
           CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=12, MT= 22 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=12, MT= 22
           SECTION 12/ 22 NOT IN DIRECTORY                  RECORD NUMBER    1799
```

37. Missing a gamma spectrum for continuum of gammas
    MAT=1625, MF=12, MT= 22 (1): No gamma spectrum

```
        ERROR(S) FOUND IN MAT=1625, MF=12, MT= 22
           CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=12, MT= 28 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=12, MT= 28
           SECTION 12/ 28 NOT IN DIRECTORY                  RECORD NUMBER    1807
```

39. Missing a gamma spectrum for continuum of gammas
    MAT=1625, MF=12, MT= 28 (1): No gamma spectrum

```
        ERROR(S) FOUND IN MAT=1625, MF=12, MT= 28
           CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1625, MF=12, MT= 51 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1625, MF=12, MT= 51
      SECTION 12/ 51 NOT IN DIRECTORY                 RECORD NUMBER    1816
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1625, MF=12, MT= 52 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1625, MF=12, MT= 52
      SECTION 12/ 52 NOT IN DIRECTORY                 RECORD NUMBER    1820
```

42. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1625, MF=12, MT= 53 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1625, MF=12, MT= 53
      SECTION 12/ 53 NOT IN DIRECTORY                 RECORD NUMBER    1824
```

43. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1625, MF=12, MT= 54 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1625, MF=12, MT= 54
      SECTION 12/ 54 NOT IN DIRECTORY                 RECORD NUMBER    1829
```

44. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1625, MF=12, MT= 55 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1625, MF=12, MT= 55
      SECTION 12/ 55 NOT IN DIRECTORY                 RECORD NUMBER    1834
```

45. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1625, MF=12, MT= 56 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1625, MF=12, MT= 56
      SECTION 12/ 56 NOT IN DIRECTORY                 RECORD NUMBER    1839
```

46. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1625, MF=12, MT= 91 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1625, MF=12, MT= 91
      SECTION 12/ 91 NOT IN DIRECTORY                 RECORD NUMBER    1844
```

47. Missing a gamma spectrum for continuum of gammas
MAT=1625, MF=12, MT= 91 (1): No gamma spectrum

```
   ERROR(S) FOUND IN MAT=1625, MF=12, MT= 91
      CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

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48. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=12, MT=102 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1625, MF=12, MT=102
       SECTION 12/102 NOT IN DIRECTORY                RECORD NUMBER    1854
```

49. Missing a gamma spectrum for continuum of gammas
    MAT=1625, MF=12, MT=102 (1): No gamma spectrum

```
    ERROR(S) FOUND IN MAT=1625, MF=12, MT=102
       CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

50. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=12, MT=103 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1625, MF=12, MT=103
       SECTION 12/103 NOT IN DIRECTORY                RECORD NUMBER    1868
```

51. Missing a gamma spectrum for continuum of gammas
    MAT=1625, MF=12, MT=103 (1): No gamma spectrum

```
    ERROR(S) FOUND IN MAT=1625, MF=12, MT=103
       CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

52. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=12, MT=107 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1625, MF=12, MT=107
       SECTION 12/107 NOT IN DIRECTORY                RECORD NUMBER    1879
```

53. Missing a gamma spectrum for continuum of gammas
    MAT=1625, MF=12, MT=107 (1): No gamma spectrum

```
    ERROR(S) FOUND IN MAT=1625, MF=12, MT=107
       CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

54. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT= 16 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1625, MF=14, MT= 16
       SECTION 14/ 16 NOT IN DIRECTORY                RECORD NUMBER    1892
```

55. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT= 22 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1625, MF=14, MT= 22
       SECTION 14/ 22 NOT IN DIRECTORY                RECORD NUMBER    1894
```

56. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT= 28 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT= 28
           SECTION 14/ 28 NOT IN DIRECTORY                RECORD NUMBER    1896
```

57. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT= 51 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT= 51
           SECTION 14/ 51 NOT IN DIRECTORY                RECORD NUMBER    1898
```

58. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT= 52 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT= 52
           SECTION 14/ 52 NOT IN DIRECTORY                RECORD NUMBER    1900
```

59. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT= 53 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT= 53
           SECTION 14/ 53 NOT IN DIRECTORY                RECORD NUMBER    1902
```

60. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT= 54 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT= 54
           SECTION 14/ 54 NOT IN DIRECTORY                RECORD NUMBER    1904
```

61. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT= 55 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT= 55
           SECTION 14/ 55 NOT IN DIRECTORY                RECORD NUMBER    1906
```

62. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT= 56 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT= 56
           SECTION 14/ 56 NOT IN DIRECTORY                RECORD NUMBER    1908
```

63. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT= 91 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT= 91
           SECTION 14/ 91 NOT IN DIRECTORY                RECORD NUMBER    1910
```

64. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT=102 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT=102
            SECTION 14/102 NOT IN DIRECTORY                 RECORD NUMBER     1912
```

65. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT=103 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT=103
            SECTION 14/103 NOT IN DIRECTORY                 RECORD NUMBER     1914
```

66. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=14, MT=107 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=14, MT=107
            SECTION 14/107 NOT IN DIRECTORY                 RECORD NUMBER     1916
```

67. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=15, MT= 16 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=15, MT= 16
            SECTION 15/ 16 NOT IN DIRECTORY                 RECORD NUMBER     1919
```

68. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=15, MT= 22 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=15, MT= 22
            SECTION 15/ 22 NOT IN DIRECTORY                 RECORD NUMBER     1953
```

69. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=15, MT= 28 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=15, MT= 28
            SECTION 15/ 28 NOT IN DIRECTORY                 RECORD NUMBER     2067
```

70. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=15, MT= 91 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=15, MT= 91
            SECTION 15/ 91 NOT IN DIRECTORY                 RECORD NUMBER     2182
```

71. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=15, MT=102 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1625, MF=15, MT=102
            SECTION 15/102 NOT IN DIRECTORY                 RECORD NUMBER     2483
```

72. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=15, MT=103 (0): Directory (b)

```
           ERROR(S) FOUND IN MAT=1625, MF=15, MT=103
               SECTION 15/103 NOT IN DIRECTORY                    RECORD NUMBER     3172
```

73. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1625, MF=15, MT=107 (0): Directory (b)

```
           ERROR(S) FOUND IN MAT=1625, MF=15, MT=107
               SECTION 15/107 NOT IN DIRECTORY                    RECORD NUMBER     3468
```

- psyche Warnings:

  1. Gamma width not in agreement with PSYCHE's expectations
     *FILE 2 / SECTION 151 / ISOTOPE MASS = 32. L = 0 / AT RESONANCE
     ENERGY 8.84590E+05 EV. THE GAMMA WIDTH 1.89200E+01 DEVIATES TOO
     MUCH FROM THE AVERAGE 2.68395E+00 (0): Gamma width*

```
     FILE  2
        SECTION 151
            ISOTOPE MASS =  32. L =   0
                     AT RESONANCE ENERGY  8.84590E+05 EV. THE GAMMA WIDTH  1.89200E+01 DEVIATES TOO MUCH FROM THE AV
```

  2. Gamma width not in agreement with PSYCHE's expectations
     *FILE 2 / SECTION 151 / ISOTOPE MASS = 32. L = 0 / AT RESONANCE
     ENERGY 1.00780E+06 EV. THE GAMMA WIDTH 6.70000E-01 DEVIATES TOO
     MUCH FROM THE AVERAGE 2.68395E+00 (0): Gamma width*

```
     FILE  2
        SECTION 151
            ISOTOPE MASS =  32. L =   0
                     AT RESONANCE ENERGY  1.00780E+06 EV. THE GAMMA WIDTH  6.70000E-01 DEVIATES TOO MUCH FROM THE AV
                     AT RESONANCE ENERGY  1.00780E+06 EV. THE GAMMA WIDTH  6.70000E-01 DEVIATES TOO MUCH FROM THE AV
```

  3. Gamma width not in agreement with PSYCHE's expectations
     *FILE 2 / SECTION 151 / ISOTOPE MASS = 32. L = 0 / AT RESONANCE
     ENERGY 1.04650E+06 EV. THE GAMMA WIDTH 5.60000E-01 DEVIATES TOO
     MUCH FROM THE AVERAGE 2.68395E+00 (0): Gamma width*

```
     FILE  2
        SECTION 151
            ISOTOPE MASS =  32. L =   0
                     AT RESONANCE ENERGY  1.04650E+06 EV. THE GAMMA WIDTH  5.60000E-01 DEVIATES TOO MUCH FROM THE AV
```

  4. Strength function in URR not in agreement with PSYCHE's expectations
     *FILE 2 / SECTION 151 / ISOTOPE MASS = 32. L = 0 / STRENGTH FUNCTION
     IS 5.80053E-05 / STRENGTH FUNCTION 5.80053E-05 / LIES OUTSIDE LIMITS
     1.00000E-04 TO 9.00000E-04 (0): URR str. ftn.*

```
     FILE  2
        SECTION 151
            ISOTOPE MASS =  32. L =   0
                     STRENGTH FUNCTION IS  5.80053E-05
                               STRENGTH FUNCTION 5.80053E-05
     ... [1 more lines]
```

5. Gamma width not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ISOTOPE MASS = 32. L = 1 / AT RESONANCE ENERGY 9.75000E+04 EV. THE GAMMA WIDTH 3.23000E-01 DEVIATES TOO MUCH FROM THE AVERAGE 1.22571E+00 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  32. L =  1
               AT RESONANCE ENERGY  9.75000E+04 EV. THE GAMMA WIDTH  3.23000E-01 DEVIATES TOO MUCH FROM THE AV
```

6. Gamma width not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ISOTOPE MASS = 32. L = 1 / AT RESONANCE ENERGY 2.72080E+05 EV. THE GAMMA WIDTH 4.52000E+00 DEVIATES TOO MUCH FROM THE AVERAGE 1.22571E+00 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  32. L =  1
               AT RESONANCE ENERGY  2.72080E+05 EV. THE GAMMA WIDTH  4.52000E+00 DEVIATES TOO MUCH FROM THE AV
```

7. Gamma width not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ISOTOPE MASS = 32. L = 1 / AT RESONANCE ENERGY 7.40850E+05 EV. THE GAMMA WIDTH 3.90000E-01 DEVIATES TOO MUCH FROM THE AVERAGE 1.22571E+00 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  32. L =  1
               AT RESONANCE ENERGY  7.40850E+05 EV. THE GAMMA WIDTH  3.90000E-01 DEVIATES TOO MUCH FROM THE AV
```

8. Gamma width not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ISOTOPE MASS = 32. L = 1 / AT RESONANCE ENERGY 7.78650E+05 EV. THE GAMMA WIDTH 3.30000E-01 DEVIATES TOO MUCH FROM THE AVERAGE 1.22571E+00 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  32. L =  1
               AT RESONANCE ENERGY  7.78650E+05 EV. THE GAMMA WIDTH  3.30000E-01 DEVIATES TOO MUCH FROM THE AV
```

- `fudge-4.0` Warnings:

  1. Missing a channel with a particular angular momenta combination
     resonances / resolved / MultiLevel_BreitWigner (Error # 0): missingResonanceChannel

     ```
     WARNING: Missing a channel with angular momenta combination L = 0, J = 1.5 and S = 1.5 for "capture"
     WARNING: Missing a channel with angular momenta combination L = 1, J = 0.5 and S = 1.5 for "capture"
     WARNING: Missing a channel with angular momenta combination L = 1, J = 1.5 and S = 1.5 for "capture"
     WARNING: Missing a channel with angular momenta combination L = 1, J = 2.5 and S = 1.5 for "capture"
             ... plus 4 more instances of this message
     ```

  2. Potential scattering hasn't converged, you need more L's!
     resonances / resolved (Error # 1): potentialScatteringNotConverged

     ```
     WARNING: Potential scattering hasn't converged by L=1 at E=1565850.0 eV, xs[1]/xs[0]=0.133376281137% > 0.1%
     ```

3. Cross section does not match sum of linked reaction cross sections
crossSectionSum label 0: total (Error # 0): CS Sum.

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.14%
```

- `fudge-4.0` Errors:

  1. Energy range of data set does not match cross section range
  reaction label 7: n + (S32_c ->S32 + gamma) / Product: S32_c / Decay product: gamma / Multiplicity: (Error # 0): Domain mismatch (a)

  ```
  WARNING: Domain doesn't match the cross section domain: (5570350.0 -> 20000000.0) vs (5570360.0 -> 20000000.0)
  ```

  2. Energy range of data set does not match cross section range
  reaction label 7: n + (S32_c ->S32 + gamma) / Product: S32_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

  ```
  WARNING: Domain doesn't match the cross section domain: (5570350.0 -> 20000000.0) vs (5570360.0 -> 20000000.0)
  ```

  3. Energy range of data set does not match cross section range
  reaction label 7: n + (S32_c ->S32 + gamma) / Product: S32_c / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)

  ```
  WARNING: Domain doesn't match the cross section domain: (5570350.0 -> 20000000.0) vs (5570360.0 -> 20000000.0)
  ```

  4. Calculated and tabulated Q values disagree.
  reaction label 8: n[multiplicity:'2'] + S31 + gamma (Error # 0): Q mismatch

  ```
  WARNING: Calculated and tabulated Q-values disagree: -15150946.33877182 eV vs -1.5088e7 eV!
  ```

  5. Calculated and tabulated Q values disagree.
  reaction label 9: n + H1 + P31 + gamma (Error # 0): Q mismatch

  ```
  WARNING: Calculated and tabulated Q-values disagree: -8972362.467891693 eV vs -8863910. eV!
  ```

  6. Calculated and tabulated Q values disagree.
  reaction label 10: S33 + gamma (Error # 0): Q mismatch

  ```
  WARNING: Calculated and tabulated Q-values disagree: 8533035.448249817 eV vs 8642990. eV!
  ```

  7. Calculated and tabulated Q values disagree.
  reaction label 11: n + He4 + Si28 + gamma (Error # 0): Q mismatch

  ```
  WARNING: Calculated and tabulated Q-values disagree: -7056396.152996063 eV vs -6948130. eV!
  ```

  8. Calculated and tabulated Q values disagree.
  reaction label 12: H1 + (P32_s ->P32 + gamma) (Error # 0): Q mismatch

  ```
  WARNING: Calculated and tabulated Q-values disagree: -1036712.488903046 eV vs -927629. eV!
  ```

  9. Calculated and tabulated Q values disagree.
  reaction label 13: He4 + (Si29_s ->Si29 + gamma) (Error # 0): Q mismatch

  ```
  WARNING: Calculated and tabulated Q-values disagree: 1417170.642250061 eV vs 1525750. eV!
  ```

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- `njoy2012` Warnings:

  1. Evaluation has no unresolved resonance parameters given
     unresr...calculation of unresolved resonance cross sections (0): No URR

     ```
     ---message from unresr---mat 1625 has no unresolved parameters
                          copy as is to nout
     ```

  2. Evaluation has no unresolved resonance parameters given
     purr...probabalistic unresolved calculation (0): No URR

     ```
     ---message from purr---mat 1625 has no unresolved parameters
                        copy as is to nout
     ```

  3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)

     ```
     ---message from conver---cannot do complete particle production for mt= 16
                          only mf4/mf5 provided
     ```

  4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)

     ```
     ---message from conver---cannot do complete particle production for mt= 22
                          only mf4/mf5 provided
     ```

  5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)

     ```
     ---message from conver---cannot do complete particle production for mt= 28
                          only mf4/mf5 provided
     ```

  6. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)

     ```
     ---message from conver---cannot do complete particle production for mt= 91
                          only mf4/mf5 provided
     ```